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20120415 - Referential USD based on CPI-U (2011e)

[Technology] [[<Normal page](#)] [**PEREZGONZALEZ Jose D (2011)**. [Referential USD based on CPI-U \(2011e\)](#)⁵. Journal of Knowledge Advancement & Integration ([ISSN 1177-4576](#)), 2012, pages 117-120.]

Referential USD

The following table provides the inflator/deflator multiplier for calculating [referential US dollars](#) (rUSD, r\$). It is based on the average value of the United States consumer price index for all urban consumers - US CPI-U Average (*United States Bureau of Labor Statistics, 2011*²). The CPI-U is a useful index for comparing the cost of consumer goods and services (*Williamson, 2011*⁴), and represents well the consumer patterns of about 80% of the U.S. population (excluding rural consumers, the military and institutional populations - *Wikipedia, 2011*³).

The formula for calculating rUSD based on CPI-U is the following:

$$\text{rUSD} = \text{nominal USD} + (\text{nominal USD} * \text{multiplier})$$

Year	CPI-U Avg	Base 2010	multiplier
1913	9.9	218.1	21.0259
1914	10.0	218.1	20.8056
1915	10.1	218.1	20.5897
1916	10.9	218.1	19.0051
1917	12.8	218.1	16.0356
1918	15.1	218.1	13.4408
1919	17.3	218.1	11.6044
1920	20.0	218.1	9.9028
1921	17.9	218.1	11.1819
1922	16.8	218.1	11.9795
1923	17.1	218.1	11.7518
1924	17.1	218.1	11.7518
1925	17.5	218.1	11.4603
1926	17.7	218.1	11.3195
1927	17.4	218.1	11.5320
1928	17.1	218.1	11.7518
1929	17.1	218.1	11.7518
1930	16.7	218.1	12.0572
1931	15.2	218.1	13.3458
1932	13.7	218.1	14.9165
1933	13.0	218.1	15.7735
1934	13.4	218.1	15.2728

1935	13.7	218.1	14.9165
1936	13.9	218.1	14.6875
1937	14.4	218.1	14.1428
1938	14.1	218.1	14.4650
1939	13.9	218.1	14.6875
1940	14.0	218.1	14.5754
1941	14.7	218.1	13.8337
1942	16.3	218.1	12.3777
1943	17.3	218.1	11.6044
1944	17.6	218.1	11.3895
1945	18.0	218.1	11.1142
1946	19.5	218.1	10.1824
1947	22.3	218.1	8.7783
1948	24.1	218.1	8.0480
1949	23.8	218.1	8.1620
1950	24.1	218.1	8.0480
1951	26.0	218.1	7.3868
1952	26.5	218.1	7.2285
1953	26.7	218.1	7.1669
1954	26.9	218.1	7.1062
1955	26.8	218.1	7.1364
1956	27.2	218.1	7.0168
1957	28.1	218.1	6.7600
1958	28.9	218.1	6.5452
1959	29.1	218.1	6.4933
1960	29.6	218.1	6.3668
1961	29.9	218.1	6.2928
1962	30.2	218.1	6.2204
1963	30.6	218.1	6.1260
1964	31.0	218.1	6.0341
1965	31.5	218.1	5.9224
1966	32.4	218.1	5.7301
1967	33.4	218.1	5.5286
1968	34.8	218.1	5.2660
1969	36.7	218.1	4.9416
1970	38.8	218.1	4.6200
1971	40.5	218.1	4.3841
1972	41.8	218.1	4.2167
1973	44.4	218.1	3.9112

1974	49.3	218.1	3.4230
1975	53.8	218.1	3.0531
1976	56.9	218.1	2.8323
1977	60.6	218.1	2.5983
1978	65.2	218.1	2.3444
1979	72.6	218.1	2.0035
1980	82.4	218.1	1.6463
1981	90.9	218.1	1.3989
1982	96.5	218.1	1.2596
1983	99.6	218.1	1.1893
1984	103.9	218.1	1.0987
1985	107.6	218.1	1.0265
1986	109.6	218.1	0.9896
1987	113.6	218.1	0.9195
1988	118.3	218.1	0.8432
1989	124.0	218.1	0.7585
1990	130.7	218.1	0.6684
1991	136.2	218.1	0.6010
1992	140.3	218.1	0.5542
1993	144.5	218.1	0.5090
1994	148.2	218.1	0.4714
1995	152.4	218.1	0.4308
1996	156.9	218.1	0.3898
1997	160.5	218.1	0.3586
1998	163.0	218.1	0.3378
1999	166.6	218.1	0.3089
2000	172.2	218.1	0.2663
2001	177.1	218.1	0.2313
2002	179.9	218.1	0.2121
2003	184.0	218.1	0.1851
2004	188.9	218.1	0.1543
2005	195.3	218.1	0.1165
2006	201.6	218.1	0.0816
2007	207.3	218.1	0.0519
2008	215.3	218.1	0.0128
2009	214.5	218.1	0.0164
2010	218.1	218.1	0.0000
2011	224.9	218.1	-0.0306
2012*	231.7	218.1	-0.0588

2013*	238.6	218.1	-0.0862
2014*	245.8	218.1	-0.1129
2015*	253.2	218.1	-0.1387
2016*	260.8	218.1	-0.1638
2017*	268.6	218.1	-0.1881
2018*	276.6	218.1	-0.2118
2019*	284.9	218.1	-0.2347
2020*	293.5	218.1	-0.2570
2021*	302.3	218.1	-0.2787
(*It assumes a 3% inflation rate for each year after 2011. These multipliers should be substituted with their real inflation values as soon as they are known.)			

References

1. **PEREZGONZALEZ Jose D (2010)**. [Referential USD based on CPI-U \(2010e\)](#). Journal of Knowledge Advancement & Integration (ISSN 1177-4576), 2011, pages 61-64.
 2. **U.S. BUREAU OF LABOR STATISTICS (2011)**. [Consumer price index](#). Retrieved from [U.S. Department of Labor](#) on 13 April 2012.
 3. **WIKIPEDIA (2011)**. *United States consumer price index*. Retrieved from [Wikipedia](#) on 21 July 2011.
 4. **WILLIAMSON Samuel H (2011)**. *Seven ways to compute the relative value of a U.S. dollar amount, 1774 to present*. Retrieved from [MeasuringWorth](#) on 21 July 2011.
- +++ **Footnotes** +++
5. The 2011 edition updates the 2010 edition¹ with the official CPI-U values for that year.

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Want to know more?

[MeasuringWorth](#)

A handy website to learn about different inflation indexes and calculate the value of money according to those indexes.

[Wiki of Science - Referential currency \(list of topics\)](#)

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